

Docket No. AUS9-2000-0384-US1

**CLAIMS:**

What is claimed is:

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7. The method of claim 2, wherein the two-dimensional data comprises a uniform resource locator.
8. The method of claim 1, further comprising executing an external application to decode the shared data to form the virtual representation of the shared data.
9. The method of claim 8, wherein the external application is a plug-in application.
10. The method of claim 8, wherein the shared data includes a wrapper application and the step of executing an external application comprises executing the wrapper application.
11. The method of claim 1, further comprising:  
performing a modification to the shared data;  
generating a shared data update event indicating the modification; and  
sending the shared data update event to the server.
12. The method of claim 1, wherein the shared data includes access control information indicating an access control level for a user.
13. The method of claim 12, wherein the access control level is one of ownership, authorship, viewership, monitorship, and blind.
14. The method of claim 12, further comprising:

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receiving a request to modify the shared data; and  
determining whether the user has a sufficient access  
control level.

15. The method of claim 14, further comprising modifying  
the shared data if the user has a sufficient access  
control level.

16. The method of claim 14, further comprising notifying  
the user of insufficient access control if the user does  
not have a sufficient access control level.

17. The method of claim 1, further comprising:  
receiving a shared data update event indicating a  
modification to the shared data;  
modifying the shared data according to the shared  
data update event to form modified data; and  
displaying a modified representation of the modified  
data in the three-dimensional environment.

18. The method of claim 1, wherein the shared data is  
three-dimensional data.

19. The method of claim 18, wherein the virtual  
representation is a three-dimensional object.

20. The method of claim 18, wherein the orientation  
information identifies a location and orientation for the  
virtual representation in the three-dimensional  
environment.

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21. A method in a data processing system, comprising:  
rendering a three-dimensional environment;  
receiving shared data including access control  
information indicating an access control level for a user  
from a server; and  
displaying a virtual representation of the shared  
data in the three-dimensional environment based on the  
access control level of the user.
22. The method of claim 21, wherein the access control  
level is one of an ownership access control level, an  
authorship access control level, a viewership access  
control level, a monitorship access control level, and a  
blind access control level.
23. The method of claim 21, further comprising:  
receiving a request to modify the shared data; and  
determining whether the user has a sufficient access  
control level.
24. The method of claim 23, further comprising modifying  
the shared data if the user has a sufficient access  
control level.
25. The method of claim 24, further comprising:  
generating a shared data update event indicating the  
modification; and  
sending the shared data update event to the server.
26. The method of claim 23, further comprising notifying  
the user of insufficient access control if the user does

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not have a sufficient access control level.

27. The method of claim 21, further comprising:  
receiving a shared data update event indicating a modification to the shared data;  
modifying the shared data according to the shared data update event to form modified data; and  
displaying a modified representation of the modified data in the three-dimensional environment based on the access control level of the user.

28. A method in a data processing system, comprising:  
rendering a three-dimensional environment from the perspective of a first participant, the three-dimensional environment including an avatar representing a second participant;  
receiving a selection of the avatar from the first participant;  
receiving a selection of a file to be transferred from the first participant; and  
transferring the file to a client computer associated with the second participant.

29. The method of claim 28, further comprising:  
sending a transfer request to the second participant;  
receiving an acceptance from the second participant;  
wherein the step of transferring the file to a client computer is performed in response to receiving the acceptance.

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30. An apparatus, comprising:  
    rendering means for rendering a three-dimensional environment;  
    receipt means for receiving shared data including orientation information from a server; and  
    display means for displaying a virtual representation of the shared data in the three-dimensional environment based on the orientation information.
31. The apparatus of claim 30, wherein the shared data includes two-dimensional data.
32. The apparatus of claim 31, wherein the virtual representation is a surface texture image.
33. The apparatus of claim 32, wherein the three-dimensional environment includes at least one three-dimensional object and the display means comprises:  
    means for applying the surface texture image to the three-dimensional object.
34. The apparatus of claim 33, wherein the orientation information identifies the three-dimensional object.
35. The apparatus of claim 30, further comprising execution means for executing an external application to decode the shared data to form the virtual representation of the shared data.
36. The apparatus of claim 35, wherein the external

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application is a plug-in application.

37. The apparatus of claim 36, wherein the shared data includes a wrapper application and the execution means comprises means for executing the wrapper application.

38. The apparatus of claim 30, further comprising:  
means for performing a modification to the shared data;

means for generating a shared data update event indicating the modification; and

means for sending the shared data update event to the server.

39. The apparatus of claim 30, further comprising:  
means for receiving a shared data update event indicating a modification to the shared data;

means for modifying the shared data according to the shared data update event to form modified data; and

means for displaying a modified representation of the modified data in the three-dimensional environment.

40. The apparatus of claim 30, wherein the shared data is three-dimensional data.

41. The apparatus of claim 40, wherein the virtual representation is a three-dimensional object.

42. The apparatus of claim 40, wherein the orientation information identifies a location and orientation for the virtual representation in the three-dimensional

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indicating the modification; and

means for sending the shared data update event to the server.

48. The apparatus of claim 45, further comprising means for notifying the user of insufficient access control if the user does not have a sufficient access control level.

49. The apparatus of claim 43, further comprising:

means for receiving a shared data update event indicating a modification to the shared data;

means for modifying the shared data according to the shared data update event to form modified data; and

means for displaying a modified representation of the modified data in the three-dimensional environment based on the access control level of the user.

50. An apparatus, comprising:

rendering means for rendering a three-dimensional environment from the perspective of a first participant, the three-dimensional environment including an avatar representing a second participant;

first receipt means for receiving a selection of the avatar from the first participant;

second receipt means for receiving a selection of a file to be transferred from the first participant; and

transfer means for transferring the file to a client computer associated with the second participant.

51. The apparatus of claim 50, further comprising:

means for sending a transfer request to the second

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means for receiving an acceptance from the second participant;

wherein the transfer means transfers the file to the client computer in response to the means for receiving the acceptance.

52. A computer program product, in a computer readable medium, comprising:

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instructions for rendering a three-dimensional
environment;
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instructions for receiving shared data including orientation information from a server; and

instructions for displaying a virtual representation of the shared data in the three-dimensional environment based on the orientation information.

53. A computer program product, in a computer readable medium, comprising:

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instructions for rendering a three-dimensional
environment;
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instructions for receiving shared data including access control information indicating an access control level for a user from a server; and

instructions for displaying a virtual representation of the shared data in the three- dimensional environment based on the access control level of the user.

54. A computer program product, in a computer readable medium, comprising:

instructions for rendering a three-dimensional

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instructions for transferring the file to a client computer associated with the second participant.